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SUBJ: ISRAEL AND PA FACE WORSENING WATER SITUATION

Ref: 07 Tel Aviv 1698

¶1. (SBU) SUMMARY. Israel and PA areas have received less than two-thirds the average rainfall for this period during the 2007-2008 rainy season, and may face greater water scarcity than ever before. The fourth consecutive year of poor rains will leave natural sources of water unreplenished. The Jordan River, Lake Kinneret (Sea of Galilee), and underground aquifers are already pumped beyond their sustainable limits. Water recycling and desalination hold promise, but imply tremendous investment in water and energy infrastructure. Tight water supplies are likely to heighten political tensions with the PA and Jordan in the coming year. This is a joint Embassy and ConGen Jerusalem cable. End Summary.

Natural Water Sources Few

¶2. (SBU) That Israel is short of water is 3000-year-old news, but rarely in the modern state's history has the situation appeared so bleak. Over the past three years the region has experienced below average rainfall during its annual rainy season, November through March. This year Israel's official meteorological service has recorded an average of 70.5 percent of normal rainfall in coastal regions, 60 percent of normal rainfall at inland reporting stations, and only 51.2 percent of normal at Jordan Rift Valley sites. This sums to only 60.7 percent of average normal rainfall to date this season. Total recharge for Lake Kinneret recorded at the end of last year's rainy season was about the same 60 percent (reftel).

¶3. (U) Below average rains have left Lake Kinneret, the source of 30 percent of Israel's fresh water, at -212.54 meters below sea level, while its normal range is between -209 and -213 meters. This reading is only 50 centimeters (17 inches) above the redline level, the lowest point at which Mekorot, Israel's national water utility, can draw from the lake in view of hydrologic and functional concerns. The pipeline drawing on the Lake has been closed since early January.

¶4. (SBU) Alternative natural sources of water are also at low levels, both from years of low rainfall and from over-pumping. The four aquifers and the small natural springs west of the Jordan River supply nearly half of the Palestinian water supply, and the other half is purchased from Israel. Mekorot draws 36 percent of its water from these same aquifers. At the December 2007 Trilateral Water Working Group, convening Israeli Water Authority (IWA) and Palestinian Water Authority (PWA) managers under USG chairmanship, PWA officials stated that over 3000 illegal wells were operating in the West Bank and Gaza. The Gaza aquifer, they noted, is particularly over-pumped and polluted, with salinity increasing as nearby seawater seeps into the diminishing freshwater table. Currently, the PWA estimates that 30 percent of Gaza residents lack potable drinking water.

15. (SBU) The Jordan River is one of the principal sources for water for Israel, Jordan and the West Bank, and in addition to natural springs, supplies 34 percent of Israel's supply. The Jordan has already been heavily tapped, and its course below Lake Kinneret has become little more than a dry river bed except for where semi-treated wastewater or industrial effluent is pumped into the channel. Long-standing PA demands to reallocate the River's waters above and below Lake Kinneret by diminishing Israel's share have yet to be negotiated. Calls to reduce tapping the Jordan River in order to restore that valley's natural ecology and halt the shrinking of the Dead Sea will receive even less action until fundamental human subsistence needs are assured. The best Israel can expect from the Jordan River in coming years will be the volume it presently draws, and that is uncertain.

Non-Natural Water Sources

16. (SBU) Israel's two chief non-natural water sources are recycling and desalination. Israel already records the highest level of water treatment and reuse in the world; The IWA claims that over 70 percent of first-use water from the densely populated band including Tel Aviv is reused. This treated "gray water" is sent onward for industrial and agricultural purposes. The high reuse rate effectively doubles the volume of water recycled, greatly increasing the impact of each cubic meter of natural-source water. While further investments in recycling water will yield benefits, it becomes a high cost source in sparsely populated areas or when industrial pollutants must be separated out.

17. (SBU) This leaves the desalination option. Desalination remains the GOI's hope for addressing the country's long-term water shortage. Israel is a global leader in desalination technology, and

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Mekorot has 31 desalination plants operating in Israel. GOI Minister of Infrastructure Binyamin Ben Eliezer has approved plans to nearly quadruple existing desalination capacity, from 124 million cubic meters annually to nearly 500 mcm. Major expansions of facilities in Ashkelon, Hadera and Palmachim are planned, and new installations in Rishon Le Zion and Ashdod will be built. This additional capacity will not be brought on-line until 2012 and after, however.

The Energy-Water Connection

18. (SBU) Desalinated water is expensive, however, costing up to three or four times naturally-sourced water. Desalination technology filters sea water through multiple layers of filtering fibers at very high pressures (up to 40 atmospheres), or distills seawater through electrolysis or heat. Either system requires large amounts of energy. There is a transformation nexus between energy and water; creating water requires energy, and effective use of water can help save energy. As demonstrated by oil-rich Persian Gulf states, a large investment of energy can yield as much water as desired. Israel has deep resources of neither energy nor water, however. Israel's present installed capacity of 10,800 megawatts is generated by coal (63 percent), natural gas (20 percent), diesel (15 percent) and the balance from alternative sources such as wind, biomass, and solar. Israel currently uses about 6 percent of its total generated electricity for moving water around the country; including the bill for desalination plants, Mekorot is already the largest single electricity consumer in Israel. Greater water recycling will increase this amount. Producing more desalinated water implies both more investment in new generating capacity, and potentially greater expense for the imported fuel sources this entails.

19. (U) Solar energy is the favored alternative energy source in Israel. Despite announcing a national objective of 2 percent of Israel's electricity generated by alternative sources by 2007, the first solar-generated electric plant in the country is only now entering the bidding stage, having been delayed years by bureaucratic logjams over land allocation and bidding procedures.

Minister Eliezer stated on January 23 that Israel should commit itself to supplying 10 percent of its energy from renewable sources by 2020.

In Lieu of Conclusions

¶10. (SBU) Weather forecasters are not expecting the amount of rain due in the coming two months to compensate for years of substandard precipitation. Predictions are for normal to lighter than normal rains. Barring divine intervention - not to be ruled out in this region - the following circumstances may prevail:

-- Over-pumping of aquifers will continue west of the Jordan River, leading to deteriorating water quality in Israel and PA areas.

-- Pressure on Israel to share its desalination capacity with neighboring PA areas will increase. This was already seen at the December Trilateral Water Working Group.

-- Public demands to address the water shortage will increase into the summer, particularly in PA areas; tensions in Gaza will rise further.

-- Water resource allocation issues will increase in importance in the Annapolis Process working groups.

-- Given the lead-time needed to bring any new freshwater generating capacity on-line in the region, from either natural or man-made sources, these tensions will have to be managed and short-term solutions sought, such as major public conservation campaigns.

-- Solving regional water scarcity will have long-term implications on regional power generation plans, given the water-energy nexus.

-- Private sector and NGOs will likely propose quick-fix solutions (waterbag technology, tanker-ships, pipelines), but these are costly and mostly untested solutions.

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